Application No.: 10/716,512

Examiner: Deborah YEE

Art Unit: 1742

AMENDMENT TO THE CLAIMS

Claim 1 (Currently Amended). 1. A microalloyed steel easy to separate

separable by fracture splitting at low temperatures, which comprises from 0.15 to 0.35

wt% carbon, from 0.5 to 2.0 wt% silicon, from 0.5 to 1.5 wt% manganese, from 0.03

to 0.15 wt% phosphorus, from 0.01 to 0.15 wt% sulfur, from 0.01 to 0.5 wt% copper,

from 0.01 to 0.5 wt% nickel, from 0.01 to 1.0 wt% chromium, from 0.001 to 0.01

wt% soluble aluminium, from 0.005 to 0.035 wt% nitrogen, from 0.0001 to 0.01 wt%

calcium, and from 0.001 to 0.01 wt% oxygen, the remainder comprising iron and

inevitable impurities, and which satisfies the following relationships 1 and 2:

Relationship 1,

 $0.6 \le \text{Ceq} \le 0.85$ ,

wherein Ceq = C+0.07xSi+0.16xMn+0.61xP+0.19xCu+0.17xNi+0.2xCr;

Relationship 2,

 $0 \le T_{Tr} \le 1.5$ 

wherein  $T_{Tr} = (C+0.8xSi+5xP)-0.5x(Mn+Cr+Cu+Ni)$ ;

wherein the microalloyed steel lacks vanadium.

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Claim 2 (Currently Amended). The microalloyed steel easy to separate

separable by fracture splitting at low temperatures according to claim 1, which

contains one or both of up to 0.02 wt% titanium and up to 0.02 wt% zirconium in

place of part of the iron as the remainder.

Claim 3 (Currently Amended). The microalloyed steel easy to separate

separable by fracture splitting at low temperatures according to claim 1 or 2, which

contains one or both of up to 0.3 wt% lead and up to 0.3 wt% bismuth in place of part

of the iron as the remainder.

Claim 4 (Currently Amended). A fitting member produced through separation

by fracture splitting at a low temperature, which comprises from 0.15 to 0.35 wt%

carbon, from 0.5 to 2.0 wt% silicon, from 0.5 to 1.5 wt% manganese, from 0.03 to

 $0.15~\rm wt\%$  phosphorus, from  $0.01~\rm to$   $0.15~\rm wt\%$  sulfur, from  $0.01~\rm to$   $0.5~\rm wt\%$  copper,

from 0.01 to 0.5 wt% nickel, from 0.01 to 1.0 wt% chromium, from 0.001 to 0.01

wt% soluble aluminium, from 0.005 to 0.035 wt% nitrogen, from 0.001 to 0.01 wt%

calcium, and from 0.001 to 0.01 wt% oxygen, the remainder comprising iron and

inevitable impurities, and which satisfies the following relationships 1 and 2:

Relationship 1,

 $0.6 \le \text{Ceq} \le 0.85$ 

wherein Ceq = C+0.07xSi+0.16xMn+0.61xP+0.19xCu+0.17xNi+0.2xCr;

Relationship 2,

 $0 \le T_{Tr} \le 1.5$ 

wherein  $T_{Tr} = (C=0.8xSi+5xP)-0.5x(Mn+Cr+Cu+Ni)$ ;

wherein the microalloyed steel lacks vanadium.

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Claim 5 (Previously Presented). The fitting member produced through

separation by fracture splitting at a low temperature according to claim 4, which

contains one or both if of up to 0.02 wt% titanium and up to 0.02 wt% zirconium in

place of part of the iron as the remainder.

Claim 6 (Previously Presented). The fitting member produced by separation

by fracture splitting at a low temperature according to claim 4 or claim 5, which

contains one or both of up to 0.03 wt% lead and up to 0.3 wt% bismuth in place of

part of the iron as the remainder.

Claim 7 (Currently Amended). The fitting member produced through

separation by fracture splitting at a low temperature according to any one of claims 4

to 6 claim 4 or claim 5, which is a connecting rod for an engine.

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